REMARKS

The Examiner is thanked for the thorough examination of the present application. The Office Action, however, has continued to reject all pending claims. Specifically, claims 8, 12-15, and 22 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by *Fujiwara* et al. (US 5,835,170). Claims 2-3, 5-7, and 16-21 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Park* (US 2004/0119673) in view of *Fujiwara* et al. (US 5,835,170). Claims 9-11 and 23-25 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Fujiwara* et al. (US 5,835,170) in view of *Park* (US 2004/0119673). Applicant respectfully requests reconsideration and withdrawal of these rejections for at least the reasons that follow.

Claim 8 is amended to incorporate the subject matter of claims 9-11, thereby rendering moot the rejection under 35 U.S.C. § 102. Since claims 12-15 are dependent upon the amended claim 8, the rejections of those claims should be withdrawn. Claim 22 is amended to incorporate the subject matter of claim 23, thereby rendering moot the rejection under 35 U.S.C. § 102. Claim 2 is amended to add new limitations. Since *Park* and *Fujiwara* do not disclose the amended claim 2, the rejection of that claim under 35 U.S.C. 103(a) is traversed. Since claims 3 and 5-7 are dependent upon the amended claim 2, the rejections of those claims should be withdrawn. Finally, claim 16 is amended to narrow its scope by adding new limitations. Since *Park* and *Fujiwara* do not disclose the amended claim 16, the rejection of that claim under 35 U.S.C. 103(a) is traversed. Since claims 17-21 are dependent upon the claim 16, the rejections of those claims should be withdrawn. Claims 9-11 and 23 are cancelled. Claims 24 and 25 are

dependent upon the amended claim 22 such that the rejections of those claims should be withdrawn.

Response To Claim Rejections Under 35 U.S.C. §102(b)

Claims 8 and 12-15 were rejected under 35 U.S.C. 102(b) as being anticipated by *Fujiwara* et al. (US 5,835,170).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *Fujiwara* does not disclose all limitations in the claim 8 such that the rejection should be withdrawn. As mentioned above, the rejections of claim 8 under 35 U.S.C. § 102 are rendered moot by the addition of the features from claims 9-11. Therefore, the relevant rejection to amended claim 8 is the rejection under 35 U.S.C. § 103(a), which was previously asserted against claims 9-11.

As amended herein, claim 8 recites.

> 8. A liquid crystal display device comprising:
> a plurality of gate lines formed in parallel to each other;
> a plurality of source lines formed in parallel to each other and orthogonal to the gate lines; and
> an array of cells formed in rows and columns, each of the cells disposed near an intersection of an N-th gate line and an M-th source line, N and M being integers, further comprising:
> a first capacitor formed between an electrode and an (N-2)-th gate line;
> a second capacitor formed between the electrode and an (N-1)-th gate line;
> ***a first transistor including a gate coupled to the (N-2)-th gate line, a first terminal directly connected to the electrode, and a second terminal coupled to the M-th source line; and***

a second transistor including a gate coupled to the N-th gate line, a first terminal directly connected to the electrode, and a second terminal coupled to the M-th source line.

(Emphasis added). Claim 8, as amended, patently defines over the cited art for the reason that the cited art fails to disclose the limitations as emphasized above, and for at least this reason, the rejection of claim 8 should be withdrawn.

Referring to the amended claim 8, the first terminals of the first and the second transistors are directly connected the electrode, wherein the first capacitor is formed between the electrode and the (N-2)-th gate line the second capacitor is formed between the electrode and (N-1)-th gate line. These features were previously embodied in claims 9-11, and the Office Action admitted they were not disclosed in *Fujiwara.* Applicant submits that they are not disclosed in *Park* either.

In this regard, *Park* fails to disclose the connection relation between the first and the second transistors. Although *Park* discloses two transistors TFT3 and TFT4 (shown in FIG. 2 of *Park*), transistors TFT3 and TFT4 are not directly connected to an electrode, wherein the electrode and a gate line form a capacitor. Thus, *Park* also fails to disclose the new limitation of claim 8. Consequently, even if Fujiwara and Park could be properly combined, the resulting combination still fails to disclose all features of amended claim 8. For at least this reason, the rejection of claim 8 should be wihtdrawn. Dependent claims 12-15 are allowable for at least the reason that these claims depend from allowable independent claim 8. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Response To Claim Rejections Under 35 U.S.C. §102(b)

Claim 22 stands rejected under 35 U.S.C. 102(b) as being anticipated by *Fujiwara* et al. (US 5,835,170). As mentioned above, the rejections of claim 22 under 35 U.S.C. § 102 are rendered moot by the addition of the features from claims 23. Therefore, the relevant rejection to amended claim 22 is the rejection under 35 U.S.C. § 103(a), which was previously asserted against claims 23.

As amended herein, claim 22 recites.

> 22. A method of driving a liquid crystal display device comprising:
> providing a plurality of gate lines formed in parallel to each other;
> providing a plurality of source lines formed in parallel to each other and orthogonal to the gate lines;
> forming an array of cells in rows and columns, each of the cells being disposed near an intersection of a corresponding N-th gate line and a corresponding M-th source line, N and M being integers;
> providing a signal including a first voltage level and a second voltage level from the M-th source line;
> selecting an (N-2)-th gate line;
> charging a first capacitor of the each of the cells to a third voltage level between the first and second voltage levels after a selection period of the (N-2)-th gate line;
> selecting an (N-1)-th gate line;
> keeping an electrical potential of a terminal of the first capacitor at the third voltage level after a selection period of the (N-1)-th gate line;
> selecting the N-th gate line;
> charging the first capacitor to the first voltage level after a selection period of the N-th gate line from the third voltage level; and
> ***forming a first transistor and a second transistor in the each of the cells, wherein the first transistor includes a gate coupled to the (N-2)-th gate line, a first terminal directly connected to the terminal of the first capacitor, and a second terminal coupled to the M-th source line and wherein the second transistor includes a gate coupled to the N-th gate line, a first terminal directly connected to the terminal of the first capacitor, and a second terminal coupled to the M-th source line.***

(*Emphasis added*). Claim 22 patently defines over the cited art for at least the reason that the cited art fails to disclose the features emphasized above. In this

regard, the features emphasized above are similar to the defining features of claim 8. Therefore, claim 22 defines over the cited art for the same reasons as claim 8 (discussed above).

Response To Claim Rejections Under 35 U.S.C. §103(a)

Claims 2-3 and 5-7 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Park* (US 2004/0119673) in view of *Fujiwara* et al. (US 5,835,170). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so." *ACS Hospital Systems, Inc., v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). *Park* and *Fujiwara* are absent some teaching or suggestion to support the combination such that the rejection of claim 2 under 35 U.S.C. 103(a) should be withdrawn.

As amended herein, claim 2 recites.

> 2. A liquid crystal display device comprising:
> a plurality of gate lines formed in parallel to each other;
> a plurality of source lines formed in parallel to each other and orthogonal to the gate lines;
> an array of cells formed in rows and columns, each of the cells being formed near an intersection of one of the gate lines and one of the source lines;
> a first transistor of each of the cells disposed at an N-th row and M-th column, N and M being integers, driven by an (N-2)-th gate line, ***wherein the first transistor includes a gate coupled to the (N-2)-th gate line, a first terminal directly connected to the electrode, and a second terminal coupled to the M-th source line****;*
> a second transistor of the each of the cells driven by an N-th gate line, ***wherein the second transistor includes a gate coupled to the N-th gate line, a first terminal directly connected to the electrode, and a second terminal coupled to the M-th source line****; and*

a first capacitor of each of the cells formed between an electrode and the (N-2)-th gate line.

(*Emphasis added*). As discussed above, the first terminals of the first and the second transistors are directly connected to an electrode and the first capacitor is formed between the electrode and the (N-2)-th gate line.

Comparing to *Park*, although *Park* discloses two transistors TFT3 and TFT4 shown in FIG. 2 of *Park*, transistors TFT3 and TFT4 are not directly to the electrode as discussed above. The same claimed feature lacked in *Park* is not disclosed in *Fujiwara*. Thus, even if properly combined, the resulting combination of *Park* and *Fujiwara* does not render the invention of claim 2 obvious, as it does not disclose all of the features embodied in claim 2.

Consequently, since *Park* and *Fujiwara* do not disclose, suggest or teach all the features recited by claim 2 of the present application, *Park* and *Fujiwara* cannot render claim 2 anticipated or obvious, and claim 2 should be allowable over the references of record. Since claims 3, and 5-7 depend to allowable claim 2 to incorporate all the claimed features in claim 2, they, as a matter of law, should be allowable.

Response To Claim Rejections Under 35 U.S.C. §103(a)

Claims 16-21 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Park* (US 2004/0119673) in view of *Fujiwara* et al. (US 5,835,170). In order for a claim to be properly rejected under 35 U.S.C. §103, the teachings of the prior art reference must suggest all features of the claimed invention to one of ordinary

skill in the art. *See, e.g., In re Dow Chemical*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988); *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

As amended herein, claim 16 recites.

> 16. A method of driving a liquid crystal display device comprising:
> providing a plurality of gate lines formed in parallel to each other;
> providing a plurality of source lines formed in parallel to each other and orthogonal to the gate lines;
> forming an array of cells in rows and columns, each of the cells being disposed near an intersection of an N-th gate line and an M-th source line, N and M being integers;
> forming a first transistor and a second transistor in the each of the cells;
> forming a first capacitor between an electrode and an (N-2)-th gate line in the each of the cells;
> driving the first transistor through the (N-2)-th gate line; and
> driving the second transistor through the N-th gate line, wherein ***the first transistor includes a gate coupled to the (N-2)-th gate line, a first terminal directly connected to the electrode, and a second terminal coupled to the M-th source line and wherein the second transistor includes a gate coupled to the N-th gate line, a first terminal directly connected to the electrode, and a second terminal coupled to the M-th source line.***

(*Emphasis added*). Independent claim 16 is allowable for at least the reason that the combination of *Park* in view of *Fujiwara* does not disclose, teach, or suggest the features that are highlighted in claim 16 above. More specifically, *Park* in view of *Fujiwara* does not disclose that the first terminals of the first and the second transistors are directly connected to an electrode and the first capacitor is formed between the electrode and an (N-2)-th gate line. Consequently, the combination of *Park* in view of *Fujiwara* does not render claim 16 obvious, and the rejection should be withdrawn.

Dependent claims 17-21 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 16. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Response To Claim Rejections Under 35 U.S.C. §103(a)

Claims 9-11 and 23-25 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Fujiwara* et al. (US 5,835,170) in view of *Park* (US 2004/0119673). Since claims 9-11 and 23 are cancelled, the rejections of those claims should be traversed. Dependent claims 24 and 25 are allowable as a matter of law, because these dependent claims contain all features/elements/steps of their respective independent claim 22. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

As a separate and independent basis for the patentability of all claims, Applicant submits that the combination of *Fujiwara* and *Park* is improper and therefore does not render the claims obvious. In this regard, the Office Action combined *Park* with *Fujiwara* to reject the claims on the solely expressed basis that "it would have been obvious … to have a capacitor as taught by ***Martin*** in order to minimize leakage currents, minimize the change in a pixel voltage caused by a parasitic capacitor and to minimize the effects of display data dependency in the liquid crystal capacitor." (see e.g., Office Action, pp. 7-8). As emphasized above, the Office Action seems to be relying on teachings of *Martin* (which was applied in the previous Office Action) for providing the motivation to combine *Park* with *Fujiwara*. Applicant respectfully disagrees with this rejection.

Indeed, the rationale for combining *Park* with *Fujiwara* is both incomplete and improper in view of the established standards for rejections under 35 U.S.C. § 103.

In this regard, the MPEP section 2141 states:

> Office policy has consistently been to follow *Graham v. John Deere Co*. in the consideration and determination of obviousness under 35 U.S.C. 103. As quoted above, the four factual inquires enunciated therein as a background for determining obviousness are briefly as follows:
>
> (A) Determining of the scope and contents of the prior art;
>
> (B) Ascertaining the differences between the prior art and the claims in issue;
>
> (C) Resolving the level of ordinary skill in the pertinent art; and
>
> (D) Evaluating evidence of secondary considerations.
>
> . . .
>
> BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS
>
> When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:
>
> (A) The claimed invention must be considered as a whole;
>
> (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
>
> (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and
>
> (D) Reasonable expectation of success is the standard with which obviousness is determined.
>
> *Hodosh v. Block Drug Co., Inc*., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

The foregoing approach to obviousness determinations was recently confirmed by the United Stated Supreme Court decision in KSR INTERNATIONAL CO. V. TELEFLEX INC. ET AL. 550 U.S. ___ (2007)(No. 04-1350, slip opinion, p. 2), where the Court stated:

> In Graham v. John Deere Co. of Kansas City, 383 U. S. 1 (1966), the Court set out a framework for applying the statutory language of §103, language itself based on the logic of the earlier decision in Hotchkiss v. Greenwood, 11 How. 248 (1851), and its progeny. See 383 U. S., at 15–17. The analysis is objective:

> "Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." Id., at 17–18.

Simply stated, the Office Action has failed to at least (1) ascertain the differences between and prior art and the claims in issue; and (2) resolve the level of ordinary skill in the art. Furthermore, the alleged rationale for combining the two references embodies clear and improper hindsight rationale. For at least these additional reasons, Applicant submits that the rejections of all claims are improper and should be withdrawn.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that all pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

No fee is believed to be due in connection with this submission. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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